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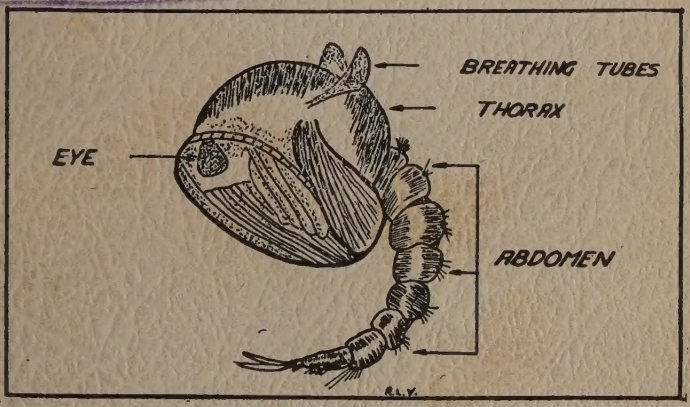

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Eastern Association
of Mosquito Control Workers

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Eastern Association of Mosquito Control Workers

Vol. I December, 1941 No. 4

EDITORIAL COMMENT

This issue of Mosquito News marka a completion of the first year in presenting an organ for dispensing interesting and useful mosquito lore. Many items of interest, which you may have read about or heard of elsewhere, have not been published for the simple reason that you have not taken the time or trouble to send the material to the Committee. This publication was created to provide a clearing-house and dispensing agent of information and must depend on your providing the material.

Your Publication Committee has investigated the possibility of selling advertising space to concerns interested in supplying mosquito control organizations. Some concerns, known to the Committee, have indicated their desire to purchase advertising space. We believe that after a year has passed, the publication is serving a need and in 1942 can use advertising to assist in publication costs. Perhaps you know or purchase from a concern that might be interested in calling attention to its products. Show them the issues of Volume I and have them write to the Committee for rates.

BUSINESS OF THE EASTERN ASSOCIATION
Summary of Minutes of the Meeting

A meeting of the Eastern Association was held at New Brunswick, N. J. on November 19, 1941. The Association re-elected for the year of 1941-42 the same officers who served so ably in 1940-41, namely:

President -------- Louis A. Stearns
1st Vice-Pres. --- Robert C. Botsford
2nd Vice-Pres. --- Robert L. Vannote
Secy-Treas. ------ Thomas D. Mulhern

The reports of the various committees were given and the Treasurer reported a balance of $83.65 for the year.

Three new members were elected to the Association, namely: Mr. C. L. Chapman, N. J. State Health Department; Mr. Walter Henderson, Ocean Co. Mosquito Extermination Commission; and Mr. J. Lyell Clarke of the Des Plaines Valley Mosquito Abatement District, Lyons, Illinois.

The Secretary was instructed to send letters of sympathy to the families of the deceased members of the Association; Mr. William H. Austin, Dr. Howard G. Taylor and Mr. William Erhard.

Dr. L. A. Stearns addressed the group, and related the activities of the past year. He described the various meetings and inspections, and indicated that considerable difficulty had been met with in arranging an interesting program for the year. The Summer inspection committee had not arranged a trip for July, so the Secretary had arranged an inspection with the aid of the North Jersey superintendents, and in August the President had arranged a tour in the

vicinity of Delaware City and Ft. DuPont. He added that the committee to arrange for an inspection of the T. V. A. was composed of Mr. Dorer, Chairman, Dr. Bishopp and Dr. Ginsburg. Mr. Dorer had a preliminary schedule worked out before the meeting in March at Atlantic City, tentatively set for either May or September. It was impossible to make the tour in May, and Dr. Ginsburg was called upon to complete the arrangements for the September tour. All of the activities of the season were interesting and very well worthwhile. He asked for suggestions for the coming year and considerable discussion followed. It appeared that the policy of holding one-day tours was generally favored, and a suggestion was made that the possibilities of a longer trip into the southeast be investigated.

Mr. C. L. Chapman spoke about the malarial hazard in New Jersey, and the state-wide W. P. A. project that had been secured to provide for malaria and pest mosquito control in the immediate vicinity of areas in the state which are important to national defense, including military and naval stations and defense industries. This project is sponsored jointly by the State Department of Health and the State Agricultural Experiment Station, and is in effect an allocation to New Jersey of W. P. A. resources for work of the above type. Before any operations can be begun, it is necessary to submit and have approved sub-projects under the state-wide project. These may be sponsored by County Mosquito Extermination Commissions wherever there is such a commission operating, and where there is need for work which falls within this classification. Several projects have already been submitted and more are being prepared. It is difficult to determine where to attack the problem, and how much work

should be done, for although it is obvious that protection must be furnished about such permanent military bases as Fort Dix, and the nearby towns, there are more than twenty different places along the Delaware River and along the Delaware Bay Coast where military maneuvers for a longer or shorter time were carried on last summer.

"The Present Status of the Program For the Control of Pest and Disease-Carrying Mosquitoes in the Eastern States"

Mr. Gies spoke on this topic which had originally been assigned to Dr. Albert E. Russell, after explaining that Dr. Russell had been called away. He explained the increased hazard to health and the grave danger of malaria outbreaks, not only in the southern states but even in the northeastern states where there has in recent years been almost complete freedom from the disease. When the emergency began, the responsibility for malaria and mosquito control around defense centers had been placed on the states and the United States Public Health Service; although within military and naval reservations the responsibility is that of the army and navy. W.P.A. resources are being utilized, men, equipment, and machines being furnished, while Mosquito Commissions, and other agencies already equipped to do so, are being called upon to furnish supervision. The Public Health Service is building up a reservoir of men able to supervise such work and these men are being furnished to the states' agencies. Some employees of mosquito control agencies have been employed by the Service, and a school for engineers, and more recently some entomologists, has been opened at Norfolk. About 200 men in all will be given short courses here. The W.P.A. has been designated to

furnish everything needed to provide for mosquito control, except supervision, and a number of the projects are already under way. In some places the projects are going forward well, and in others there are shortages of men, or equipment and supplies, with the result that work is going slowly. Mr. Gies went on to outline in detail the work that is already started or contemplated in all of the eastern states. The program included:

Maine – Entirely new work, including spraying and some permanent work, on the marshes at Old Orchard Beach and South Portland, and in the southeast corner of the state near Portsmouth Navy Yard at Kittery, Me.

New Hampshire – Ditch repair work at Portsmouth near the Navy Yard, and the fresh-water swamp work near Manchester Airport, south of Concord.

Rhode Island – Salt-marsh project about the Narraganset Bay forts and Quonset Naval Air Station was rejected, but reconsideration is being asked.

Massachusetts – Requests have been made for work in four areas, including salt-marsh and fresh-water work.

Connecticut – There have been no requests for work up to date, but there is opportunity for work about New London, New Haven and Bridgeport, and requests may be forthcoming.

New York – Camp Upton, Suffolk Co., a sizeable project involving creek cleaning and spraying. In New York City, salt-marsh and fresh water work at Ft. Totten, Floyd Bennett Airport, Ft. Tilden, and on Staten Island at Ft. Wadsworth and Miller Field.

New Jersey – Before the state-wide project was approved defense projects had been granted to County Mosquito Extermination Commissions at Camp Raritan, Middlesex County; about Secaucus in Hudson County;

from Keyport to Long Branch along the shore in Monmouth County; and at Picatinny Arsenal in Morris County. Under the state-wide project, allocations have been asked about Fort Dix, and on Island Beach at the Army Recreational Center. Other projects are in the course of preparation for Cape May Naval Air Station, along the Delaware River from Burlington County to Pennsgrove, at Dismal Swamp in Middlesex County, at Lakehurst Naval Air Station, Ocean County, at Bendix and on the North Arlington meadow in Bergen County, and about the N. J. Zinc Co. mines in Sussex County.

Pennsylvania – Most of the work will be done south of Philadelphia and in Delaware County. The area along the river where the federal government spent about $300,000. in 1918 for dikes, ditches, tide gates and pumps will be rebuilt, and spraying service will be provided. Other work will include some about Carlysle where the Army Medical School is located, and from Philadelphia to the Delaware State Line.

Delaware – A defense project has been under way about Fort duPont since June. A state-wide project has also been requested.

Maryland – No work has been started, but some is contemplated about Camp Meade, about the Glenn Martin Aircraft Plant at Baltimore, and near the Bethlehem Steel Shipyards at Sparrows Point.

Virginia – Hampton Roads and Langley Field are included, as well as Quantico and Ft. Belvoir, Washington, D. C. In the Potomac near Quantico a dense growth of rapidly spreading Chinese Water Chestnut provides much flotage and quadrimaculatus find it ideal for breeding. Last year there were 16,000 acres, and cutting of this plant is contemplated.

South of Virginia most of the interest is on malaria control but some pest control projects are included,

especially in Florida where there are many military and naval stations.

INSPECTION TRIP BY EASTERN ASSOCIATION OF MOSQUITO CONTROL WORKERS – August 28,1941

by L. A. Stearns

The second, one-day, inspection tour of the Association during the 1941 season (the first having been held in northern New Jersey on July 29 - see Mosquito News, Vol. I, No. 3, August, 1941, pp. 4-6) covered the Delaware City (Ford duPont) section in Delaware which is possibly the worst mosquito-breeding area in that State. There are some 6,000 acres of marsh and lowland within 5 miles of this point. The principal species are Aedes vexans, Mansonia perturbans and Anopheles quadrimaculatus. This district is also highly important from the standpoint of wildlife. Control operations here had commenced late in June, 1941, under a National Defense W.P.A. project sponsored by the State Highway Department, The State Board of Health and the State Agricultural Experiment Station.

The group met at New Castle, Delaware at 10 A.M. and went directly from there to Fort duPont, where they were met by Capt. R. A. Cosgrove (representing Col. A. G. Compton, Surgeon, Medical Corps) and were permitted to inspect breeding of various kinds and control work in progress throughout the cantonment area. These operations included ditching, filling and tidegate construction.

The party then left the Fort to view next new ditching to eliminate heavy A. vexans breeding and to examine feeding and resting quarters (barn) of An. quadrimaculatus; both very near the Post.

Following this, a stop was made at the tidegates on the Delaware City-Port Penn highway which control the water-level of St. Georges Creek marsh, some 1000 acres of valuable muskrat land and producing also large numbers of A. vexans, M. perturbans and An. quadrimaculatus.

Immediately prior to lunch at the Howard Johnson Restaurant (Hares Corner, Route 13), opportunity was given to observe An. quadrimaculatus breeding areas at the upper end of St. Georges basin and on Dragon Creek along the Delaware City-St. Georges road and to examine additional feeding and resting quarters (pig pen) of this species.

The greater part of the afternoon was taken up with a boat trip, thru the courtesy of Post authorities, from Fort duPont to historic Fort Delaware on Pea Patch Island, and thence to Fort Mott, Finns Point, New Jersey, to view breeding conditions and discuss with army officials control measures necessary for correcting the same.

The tour ended at 5 P.M. following an inspection of control operations (ditching, tidegates, etc.) in and about the town limits of Delaware City.

Attendance (23) was as follows: T. D. Mulhern, New Jersey Agricultural Experiment Station; Earle Potter and W. Thom, Middlesex Co., N. J., Mosquito Extermination Commission; James T. Hart, Morris Co., N. J., Mosquito Extermination Commission; Fred A. Riley and R. E. Harbison, Atlantic Co., N. J., Mosquito Extermination Commission; O. W. Lafferty, A. L. Lafferty and R. E. Reevds, Cape May Co., N. J., Mosquito Extermination Commission; Capt. R. A. Cosgrove, Medical Corps, Fort duPont, Delaware; W. W. Mach,

E. E. Lynch and Louis Edgell, Delaware State Highway Department; Edwin M. Barry, Delaware Board of Game and Fish Commissioners; Dr. Clayton M. Hoff, Delaware Natural History Society; Melvin C. Hoff, Oberlin College, Ohio; John I. Cahalan and L. L. Maxwell, local W.P.A. officials; John R. Bittle, representing the Mayor and Council of Delaware City; and Prof. Geo. L. Schuster, Dr. L. A. Stearns, Donald MacCreary and C. B. Huffaker, Delaware Agricultural Experiment Station.

THE ASSOCIATION "INVADES" THE SOUTH

Report Covering Tour to Inspect Mosquito Work in the T.V.A. and U.S. Public Health Service Work in and about Memphis, Tenn., September 22-26, 1941

by L. A. Stearns

Arrangements for this tour were made by a Committee composed by Mr. R. E. Dorer, Chairman, (U.S.P.H.S., Norfolk, Va.) Dr. Joseph M. Ginsburg, (N. J. Agri. Exp. Station, New Brunswick) and Dr. F. C. Bishopp (U.S. Bur. Ent. and Plant Q., Washington, D. C.). Inasmuch as both Mr. Dorer and Dr. Bishopp found it impossible to make the trip, the final details were taken care of by Dr. Ginsburg.

The inspection group included the following members of the Association:

Dr. T. J. Headlee, N. J. Agricultural Experiment Station
Thomas D. Mulhern, N. J. Agricultural Experiment Station
Dr. Joseph M. Ginsburg, N. J. Agricultural Experiment Station
L. D. McCarter, Hudson Co., N. J. Mosquito Extermination Commission
Marcus Donnelly, Hudson Co., N. J. Mosquito Extermination Commission
Lester Smith, Middlesex Co., N.J. Mosquito Extermination Commission
James Hart, Morris Co., N. J. Mosquito Extermination Commission
Oliver Stivers, Essex Co., N. J. Mosquito Extermination Commission
Walter Henderson, Ocean Co., N.J. Mosquito Extermination Commission
J. L. Clarke, Des Plaines Valley, Mosquito Abatement District, Lyons, Illinois
Dr. L. A. Stearns, Delaware Agricultural Experiment Station

All of the party went by machine with the exception of McCarter, Donnelly, and Clarke.

The trip to Knoxville, as made by Mulhern, Ginsburg, Henderson and Stearns, required two and one-half days (September 19. 20 and 21). It followed the Skyline Drive, in Virginia, the maximum elevation being 3590 feet, and included stops at the Luray Caverns and at the State Agricultural Experiment Station (V.P.I.), Blacksburg.

Following arrival at Knoxville, the campus of the University of Tennessee was visited on the afternoon of the 21st. Some time was also spent in going through the greenhouses on the College of

Agriculture grounds, inspecting work in progress at the Experiment Station, and making a trip through the farm orchards.

That evening, at the Hotel Farragut, gave opportunity for discussing the tour which was to commence the following day with C. C. Kiker, W. G. Stromquist, and F. E. Gartrell, representing the T.V.A.

Monday, September 22 - The group left Knoxville with C. A. Evans, Resident Sanitary Engineer, Watts Bar Dam, and his associate, E. R. Lacey, for a trip through various parts of Watts Bar Reservoir to view clearing operations and the final reconditioning of the zone of water fluctuation immediately prior to filling. Timber and brush were being cut close to the ground and then burned.

A stop was made at Mr. Evans' headquarters at Kingston, and lunch was provided at the Mess Hall at Watts Bar Dam.

The inspection party drove, thence, to Chattanooga for a meeting in the Health and Safety Department offices. In the absence of the Director, Dr. E. L. Bishop, the group was greeted by Dr. D. A. Reekie, Chief of the T.V.A. Medical Staff, and was shown a four-reel movie covering, in a broad way, the T.V.A. operations. They were then placed in charge of E. H. Givham, Resident Sanitary Engineer, Guntersville Reservoir.

En route to Huntsville, Alabama, stops were made to view breeding conditions at various points near Hales Bar Dam and along the Guntersville Reservoir. The boat spraying equipment (5 boats, valued at about $1,000.00 each) used on this Reservoir was also inspected.

An outstanding fact noted at this and all other points visited on the tour was that the New Jersey light trap failed to collect A. quadrimaculatus in appreciable numbers at any of the many collection stations about these reservoirs.

The night was spent at the Russel Erskine Hotel, Huntsville.

Tuesday, September 23 - C. D. Fairer, Resident Sanitary Engineer, Wheeler Reservoir, served as guide for the day, taking the group from Huntsville through Wheeler Reservoir, with lunch at his headquarters, Decatur, Alabama, and thence, to Florence, Alabama, (Andy's, Hotel Reeder) for the night.

Immediately after leaving Huntsville, the party drove through the government arsenal which is now under construction. This project covers an area of 49 square miles and will cost approximately $41,000,000.00.

In making the trip through Wheeler Reservoir, which is in the fifth year of impoundage, general conditions were observed and, in particular, Malaria mosquito breeding areas. A demonstration of airplane dusting was put on by James Jackson. Both stump and other areas heavily vegetated with cow lily, Nymphaea advens, were dusted with a mixture composed of Paris Green, 1 part, and soapstone, 20 parts. The dust hopper of this plane has a capacity of 1,000 pounds and in actual operations as much as 17,000 pounds are commonly applied in a single morning's work.

This Reservoir has a shore line of about 120 miles and includes some 65,000 acres, 10,000 of which must be cleared every fall to eliminate vegetation

where breeding occurs. One of the most important plants is smartweed, Polygonum persicaria. The cost of clearing is about $5.00 per acre. The prevailing wage paid workers this year is 50 cents per hour, as compared with $1.00 per day paid ordinary farm labor in this section of Alabama.

At Mr. Fairer's headquarters in Decatur, the service shop and office were visited. Among the tools used in connection with the removal and destruction of vegetation along the shores of the reservoir, perhaps the most interesting were a mower tooth hand rake and a mobile unit, used for cutting emergent vegetation. This last piece of equipment is a metal-bottomed boat (12'8" long, 4' wide, 1' deep) manufactured by C. L. Hockney, Silver Lake, Wisconsin. It is known as an "Underwater Weed Cutter" and sells for $600.00. It moves at the rate of 6 m.p.h. and, when cutting, operates at 4 m.p.h. The cutter blade, which is of the mower tooth type, is 10 feet in length and can be set to cut vegetation at all depths from water level to 5 feet beneath the surface.

Opportunity was also given to view a joint project with the U.S. Fish and Wildlife Service of diking and dewatering which is now under construction.

Considerable mosquito proofing of farm houses is being done in this area by the T.V.A. at no expense to the owners. The cost of such treatment for doors, windows, fire places, walls and floors - the screening of windows and doors, closing of fire place openings, covering walls with heavy brown paper and floors with tar paper - is about $50.00 per house and probably exceeds the value of many of these shacks. The contract price for

the current season for doors constructed and in place is $3.50 each. It is expected that mosquito proofing of this kind will last for about 4 years.

Wednesday, September 24 - The greater part of the morning of this day was spent in the company of Dr. R. B. Watson, in charge of the office and laboratory at Wilson Dam, H. S. Hurlbut (Entomologist), C. W. Kruse (Sanitary Engineer), and T. F. Hall (Botanist). The various types of experimental work carried on in the laboratories there were viewed as well as the insectary conditions for breeding A. quadrimaculatus.

A twenty-mile motor-boat trip was taken through Wilson Reservoir, during which a demonstration was given of treating the shore line with a spray composed of Black Oil, 4 parts, and Kerosene, 1 part, for the destruction of various types of vegetation, including "alligator grass," an introduction from furthe further south which is giving considerable difficulty.

Following a lengthy drive across the corner of Mississippi, the night was spent at the Wm. Len Hotel, Memphis, Tennessee.

Thursday, September 25 - The entire day was spent in and about Memphis inspecting mosquito-control work, looking over ditch-lining projects, stopping at the University of Tennessee Medical School to view malaria control research facilities, and visiting the U.S.P.H.S. headquarters for malaria control. The group was attended by Mr. H. A. Johnson, Executive Officer, U.S.P.H.S.; his associate, W. N. Parker; M. W. Yates of the City Health Department, and H. G. Tuggle, Sanitary Engineer of the Shelby County Health Department.

Within the City of Memphis there are some 300 miles of drainage, about 80 miles of which have been lined with concrete since 1936. It was estimated that a crew of three experienced men could put in from 3 to 400 feet per day of concrete ditch, two feet in width. This city, which has a population of about 290,000, covers 48 square miles. For inspection purposes, it has been divided into 48, one-square-mile areas in each of which there are five stations established for weekly observations on the prevalence of malaria-transmitting mosquitoes. The stations in each of these square-mile areas include (1) culverts, (2) stables, (3) out-houses, (4) Outside toilets and (5) under houses, in each of which 50 square feet of area are examined per minute for ten minutes at each weekly inspection.

During the latter part of the morning, the party attended a meeting of the Howard-Krauss Society at the Central High School. This Society was organized by Colonel J. A. LePrince, and was so named in honor of Dr. L. O. Howard, former chief of the U. S. Bureau of Entomology, and the late Dr. Wm. Krauss of the Medical School of the University of Tennessee at Memphis. Its slogan is "Educate to Eradicate Malaria". The students, under the direction of Miss Annekay Tharpe, presented a most interesting program which dealt with the history and aims of the organization and included also an entertaining "quiz period." Each of the visitors was provided with a copy of "The Triple S" school paper which was given-over entirely to articles relating to malaria and mosquito control. Following this meeting, lunch was taken in the High School Cafeteria.

In the early afternoon, concrete-lined ditches were inspected in various parts of Shelby County

immediately outside the City limits. A demonstration of oiling was viewed in which the larvicide was composed of 9 parts of crankcase oil and 1 part of kerosene. At the County headquarters for such work, they have three, 17,000 gallon tanks for the storage of crankcase oil.

Following the trip about Shelby County, the group gathered at the U.S.P.H.S. headquarters at the University of Tennessee Medical School, at which time "Recent Laboratory Developments in Malaria and Pest Mosquito Control of Importance to the National Defense Effort" and "The Organization of Mosquito Control Work in Areas Important for National Defense" were discussed by J. L. Robertson, Sanitary Engineer. In the course of his discussion, some consideration was given the school for public health personnel now located at Norfolk, Virginia. This is an orientation course covering malaria and mosquito control work. The first two sessions had a total attendance of approximately 100; the third is scheduled for the period September 30 to October 15, 1941. Both an outline and a detailed schedule covering the session about to take place were provided for future reference.

Following Mr. Robertson's presentation of the topics listed, Mr. H. A. Johnson summarized recent experimental work with the Phenol larvicide which is commonly used in army camps. A report covering this work is contained in the Public Health Report, Volume 56, Number 33, August 15, 1941. When used as recommended, Mr. Johnson and his associates found it ineffective for mosquito control and toxic to fish.

Charts dealing with the malaria cycle were shown and the statement made that it was due for an up-turn in 1942.

Attention was directed to the impoundments in the Mississippi River from Iowa northward which, it seems certain, will create wide-spread malaria control problems.

In discussing future work to be undertaken at this headquarters, Mr. Johnson stated that they plan to study, in a broad way, the question of naturalistic control, in which such factors as temperature, humidity, light, pH, and various types of vegetative cover will be dealt with under controlled conditions.

They also intend to determine the response of malaria mosquitoes to "inaudible" vibration and "invisible" light. The force at Memphis, which were transferred from Savannah, Georgia, some time ago, have good facilities for work of this kind and also the laboratories and insectary space and equipment to carry on the breeding of A. quadrimaculatus and malaria studies with several animals including monkeys, rabbits, guinea pigs, etc. The inspection tour ended withthis meeting. (Night at Memphis).

The return trip was made on September 26, 27 and 28, the night of the 26th being spent at the Gatlinburg Inn, Gatlinburg, Tennessee, and that of the 27th at the Danville Hotel, Danville, Virginia. This route provided an opportunity to visit the Great Smokies which reach an elevation of 6310 feet at the highest point. The total trip covered 2512 miles.

WORLD-WIDE MOSQUITO CONTROL

A recent news item, dated November 18, 1941, Rangoon, Burma, carried an interesting item of news -- "The fight against malaria -- the worst natural enemy of efficiency on the Burma Road to China -- was given impetus today by the arrival of two more members of the American anti-malaria mission. They were entomologist W. L. Jellison and engineer R. A. Johnson." (Note:-- Mr. Johnson took charge of the Eastern Association Group while in Memphis.)

Mosquitoes Declared Guilty Sleeping Sickness Carriers

Washington (U.P.) -- "One of the most baffling mysteries of medical science was believed solved last night with a government announcement that mosquitoes carry sleeping sickness.

For almost 20 years federal, state and local health authorities have sought the carrier of the disease that kills from 250 to 500 persons and hundreds of animals each year. Until now every clue was worthless.

The mosquito has been convicted of many offenses. He is a carrier of malaria, yellow fever, dengue and other maladies.

Scientists long have suspected him of complicity in the spread of encephalomyelitis (sleeping sickness). But they never could prove it. Now they claim conclusive proof.

In a wholesale roundup of "suspects" the Bureau of Entomology and Plant Quarantine, cooperating with the University of California and Washington state and local health authorities collected about 10,000 mosquitoes, flies and other biting insects. The collection was made in the Yakima Valley of Washington during the summer of 1940 when 27 humans and 40 to 50 unvaccinated horses had sleeping sickness.

The insects were identical, frozen and shipped in dry ice to the University of California laboratory at San Francisco. Then they were divided into lots or "pools" according to family and species, washed, ground and the serum injected into mice.

One pool composed of culex tarsalis mosquitoes produced symptoms of the St. Louis type of sleeping sickness. That type received its name from the severe epidemic which took more than 100 lives in St. Louis during the summer of 1932.

That was the criminal medical scientists were after. At last they had definite proof of his guilt.

It had been demonstrated previously that mosquitoes could transmit the disease under laboratory conditions. But that did not prove that they were the actual carriers of the disease. This was the first definite proof that mosquitoes collected in the field were the actual carriers.

Medical authorities said the particular species of mosquito found carrying the virus is widespread in states west of the Mississippi. The

same kind of mosquitoes, placed in a different "pool" were found to cause sleeping sickness in horses.

Last year, according to public health service records, there were more than 3,000 cases of human sleeping sickness in the United States. About nine per cent of the cases were fatal, the records showed.

The findings, while of great scientific importance, leave some questions unanswered, the Bureau of Entomology and Plant Quarantine said. The scientists now want to know whether:

(1) Mosquitoes are the only transmitting agents of human encephalo; (2) whether the culex tarsalis mosquito is the only type transmitting the disease; (3) whether mosquitoes must be abundant to cause the disease, and (4) whether mosquitoes harbor the disease between outbreaks.

If these facts are established, a plan for mosquito eradication can be mapped that might control sleeping sickness as effectively as mosquito eradication helped control yellow fever."

Newark Sunday Ledger
November 9, 1941

Hailed On Gains In Malaria War

St. Louis (A.P.) -- "A young Iowa-born scientist received medicine's highest honors today for helping to make the tropics habitable for troops.

The American Society of Tropical Medicine presented to Dr. Lloyd E. Rozeboom of Johns Hopkins

University, the Bailey K. Ashford award of $1,000. and a bronze medal for tracking down malaria transmission to a variety of mosquito suspected, but never demonstrated, to be a carrier of the disease.

Dr. James Stevens Simmons, army medical corps colonel who presented the award, said Rozeboom's work was comparable to that of the late Maj. Walter Reed, who proved that yellow fever was transmitted by mosquitoes.

Dr. Rozeboom, 33-year-old entomologist, is only ten years out of Iowa State College.

Colonel Simmons said that Doctor Rozeboom's discovery was vitally important in the present defense emergency which may require the dispatch of troops to tropical countries.

The young scientist risked malaria infection from 1934 to 1937 while studying tropical mosquitoes in Panama and Trinidad, one of the new defense base sites. He also demonstrated that two other varieties of the insects are carriers of the disease.

After four months study at Trinidad, he reported that parts of various Central and South American countries were danger spots because one native variety of mosquito -- a wide malaria carrier -- had a particular appetite for human blood.

In Trinidad, he told the Society of tropical Medicine and the Southern Medical Association today, the insect breeds in water caught by the leaves of a tropical plant which grows on trees, whereas most disease-carrying mosquitoes breed in ground pools.

"Cut down the trees and you'll get rid of the mosquitoes," he told the army and local health authorities."

Elizabeth Daily Journal
November 11, 1941

Epidemic Malaria in New York

"Every year cases of malaria are reported in New York City. Is it possible that an area so highly sanitated and developed may be laid low by a tropical scourge? This question should occur to all public health workers. Where does the malaria come from, what type is it, how is it transmitted, and what can we do about it so that the health of the non-immune population may not be menaced?

Strangely enough, the malaria we see in New York City comes from Cairo, all the way from Egypt. It seems that drug addicts there found they got a greater kick out of heroin when they took in intravenously or by "shooting the main line" as they call it. Moreover, if a single addict could not afford to buy heroin at the retail price he "chipped in" with five or six others toward the purchase of a wholesale supply. Then they would all gather in a group and take their "shot" using the same syringe. One of them had malaria and passed it along in a syringe to his friends and it's been going that way ever since. Some were sailors who came to America and taught our addicts the habit of "main line shooting". So now we have it in New York and elsewhere. The New York addicts like this system because they can hide a single syringe and use it in a group at one time. They are not so likely to be arrested for "possession."

In the past six years there have been several hundred cases of malaria in Bellevue Hospital alone. The medical examiner has autopsied more than one hundred addicts who died from this disease. Obviously the problem is a serious one for the addicts.

What about the rest of us? Fortunately there are not many mosquitoes in New York but that there are suitable A. quadrimaculatus locally is important. Addicts with malaria are more numerous than hospital admissions indicate; they know about the disease and take quinine. This may relieve the symptoms but they still remain carriers capable of infecting mosquitoes. Drug addicts wander a great deal. If they are not now in contact with mosquitoes capable of transmission, they may go to places where there are plenty of such insects.

What can we do about it? Drug addicts, it seems, should be under medico-legal jurisdiction wherever they are confined, whether in a hospital or a prison. We should make sure that they do not have active or inactive malaria and if they do, we must treat them properly until they are free from the disease. Otherwise, we may have a real epidemic of severe malaria in some large northern American city."

Harry Most, M.D., D.T.M. & H.
Bulletin - October, 1939
Bureau of Criminal Investigation
New York State Police

ACTIVITIES IN MEMBER STATES

Because of the national emergency and the intensive national defense efforts resulting therefrom, malaria-mosquito control work is now

being done in a number of midwestern states where no organized control work had been performed previously and has been greatly increased in scope in other states where a limited amount of work had been carried on in former years. In northern Illinois, Mr. J. Lyell Clarke has for the last several years been a potent force in educating the public to the value of mosquito control work, and the national defense work now being performed in such states as Ohio, Indiana, Kentucky, and Illinois should serve the same end. This work, which is being sponsored by the U.S. Public Health Service and the respective State Departments of Health, may result in the establishment of permanent mosquito control agencies or, at the least, should make the authorities and the public more mosquito control conscious.

The writer has had occasion to attend some sessions of the National Malaria Society, meeting in conjunction with the Southern Section of the A.P.H.A. From the general context of some of the reports it appeared that some of the men were not as familiar with pest mosquito control problems and procedures as many eastern workers are and, at the same time, these men undoubtedly possess information and data that would be of value to the eastern workers. It should be of great value to all concerned, then, to arrange a two or three day session get-together of the various organizations and workers in the near future in order to effect this exchange of information and points of view. It might be well also to arrange for some form of publication for the papers and discussions.

H. L. Felton

DEVELOPMENTS IN MOSQUITO CONTROL

Mosquito Breeding on Farrington Lake

When Farrington Lake was inspected this spring there was enough evidence of breeding to indicate that the entire shore-line of the lake should be sprayed.

Inspection after the first treatment showed that though there was a recurrence of breeding, it was not as dense as that found on the first inspection. Subsequent inspections after each application of larvicide showed similar reductions in the number of new larvae.

We endeavored to determine the reason for this reduction in the amount of breeding recurring but with the limited time at our disposal it was impossible to make a complete study. We wonder if other Mosquito Control Units treating impounded waters have noticed this reduction in the number of larvae recurring after treatment. If not, we would suggest that it would be of interest to check it. It is possible that some research on this subject might be worth-while.

W. Thom and L. Smith
Middlesex County

Morris County Trailer-Spray Unit

The Morris County Mosquito Extermination Commission has purchased a new Hardie spray-trailer unit. It consists of a #99 2-cylinder Hardie pump with a 4-gallon per minute capacity and capable of developing 300# pressure; a wooden tank, and a 1-horsepower Briggs-Stratton gasoline engine; mounted on a roller-bearing axle with 18 x 4 rubber tires.

This equipment makes an excellent emergency larvicidal unit and is ideal for outdoor repellant spraying operations. It allows free use of motor equipment while not spraying.

J. T. Hart, Jr.

REVIEW OF BOOKS & PUBLISHED ARTICLES

Human Malaria

A symposium on Human Malaria with special reference to North America and the Caribbean Region has been issued by the American Association for the Advancement of Science. This splendid book of 370 pages assembles 43 scientific papers presented at the Philadelphia meeting of the Association held December 30, 1940 - January 1, 1941. The contributors include many outstanding scientists in malaria and mosquito control. The subjects of the papers treat the following phases of the work: Parasitology, Anopheline Vectors, Epidimiology, Symptomatology, Treatment, Control and Eradication.

Public Health Reports

See Public Health Reports, Oct. 31, 1941 - Vol. 56, No. 44, P 2127. "Description of Home-Made Hydraulic Dredge Employed in Malaria Control at Perry, Florida." by A. C. Newman, Ass't. Eng'r., Florida State Board of Health.

Drawing and photo of this dredge is included in report above. Cost of construction slightly over $700.00. Two jobs are reported upon--one results in moving 700 cubic yards of material at a cost of 23¢ per yard; the other amounted to 3500 cubic yards at a cost of 16¢ per yard.

PERSONAL NOTES

Mr. W. A. Connell, a temporary assistant in the Department of Entomology at the University of Delaware on several occasions, was drafted on June 5th. From that date, until released from active service on September 18th, he was stationed at Camp Lee, Virginia, with the First Medical Training Batallion. Mr. Connell returned to the University on October 16th and will devote most of his time to an investigation of mosquito larvicides under a fellowship sponsored by Hercules Powder Company of Wilmington, Delaware.

Mr. Earle Potter, Assistant Superintendent of the Middlesex County Mosquito Extermination Commission has been appointed Acting Superintendent of the Burlington County Mosquito Extermination Commission, N. J.

Mr. Herman L. Felton, formerly Entomologist with the New York City Department of Health, is now Associate Public Health Engineer with the U.S. Public Health Service, District No. 3, Chicago, Illinois.

Mr. Russell W. Gies, Sanitary Engineer, formerly with the New York City Department of Health, is now associated with the U. S. Public Health Service.

Mr. Duncan E. Longworth of the Nassau County Mosquito Extermination Commission, N. Y., is now a First Lieutenant in the U.S. Army Sanitary Corps. He is doing mosquito control work at Camp Davis, Wilmington, South Carolina.

Mr. Malcolm Piernie, Jr. is stationed with the Maryland State Department of Health and has been conducting surveys of mosquito conditions in the neighborhood of army camps and defense plants.

Mr. Roy J. Wilson of the Morris County Mosquito Extermination Commission has been appointed a Principal Engineering Aide with the U.S. Public Health Service, to be stationed at Gloucester County, N. J.

MEETINGS & CONVENTIONS

N. J. Exhibit at American Public Health Association Convention

At the annual convention of the American Public Health Association in Atlantic City, October 14-17, 1941, the New Jersey Mosquito Extermination Association presented a fine exhibit on mosquitoes and their control. Tools, live larvae and pupae, pictures, maps and charts were attractively arranged in a 30' wide booth to give life history, problems, methods of control and results in combatting mosquitoes in New Jersey.

California Mosquito Control Association

The above association will hold its 12th Annual conference at the University of California on December 15-16, 1941. The highlights of the conference will be discussions of Equine Encephalomyelitis, and of Mosquito Control and National Defense. The program is replete with papers that appear likely to be of great interest, and very well worth making an effort to hear.

National Malaria Society

The National Malaria Society held its regular meeting in St. Louis from November 10th to 13th. The following papers were presented:

1. Chairman's Address: "A Long-Range Malaria Control Program", J. N. Baker, Montgomery, Ala.

2. "Malaria-Control Ditch-Lining Experience in a South Georgia County", (Mr.) Justin Andrews, (Mr.) R. S. Howard, Georgia State Department of Health, Atlanta, Ga., and (Mr.) E. Archer Turner, Public Health Engineer, Brooks County, Quitman, Ga.

3. "Studies on the Choice of a Medium for Oviposition by Anopheles quadrimaculatus Say", (Mr. Horace O. Lund, Emory University Field Station, Newton, Ga.

4. "The Design and Application of a New Type Automatic Siphon for Malaria Control Drainage", (Mr.) W. A. Legwen and (Mr.) R. S. Howard, Jr., State Department of Health, Atlanta, Ga.

5. "Circular Joint and Concrete Form Design for Precast Inverts for Malaria Control Ditch Lining", (Mr.) W. A. Legwen and (Mr.) Louva G. Lenert, State Department of Health, Atlanta, Ga.

6. "Studies on Artificial Resting Places of Anopheles quadrimaculatus Say", (Mr.) M. H. Goodwin, Jr., Emory University Field Station, Newton, Ga.

7. "Modernization of Antiquated Drainage Systems in Chatham County, Georgia", (Mr.) C. Heard Field, Malaria Control Engineer. Chatham County Health Department, Savannah, Ga.

8. "The Immobilization of Larvicidal Oils by Biological Films", (By Invitation), (Mr.) Chas. E. Renn, Graduate School of Engineering, Harvard University, Cambridge, Mass.

9. "High Speed Motion Picture Demonstration of the Feeding Mechanisms of Anopheles and Culex Larvae", (By Invitation), (Mr.) Chas. E. Renn, Graduate School of Engineering, Harvard University, Cambridge, Mass.

10. "Species Eradication as a Practical Measure for Control of Mosquito-Borne Disease", Fred L. Soper and D. Bruce Wilson, Rockefeller Foundation, Rio de Janeiro, Brazil.

11. "Effect of New Chemotherapeutic Agents on Human and Experimental Malaria", L. T. Coggeshall, School of Public Health, University of Michigan Medical School, Ann Arbor, Mich., and J. Maier, International Health Division, Rockefeller Foundation, Rockefeller Institute, New York, N. Y.

12. "Observations on Malaria Around Lake Wilson, Alabama, 1934-1940", R. B. Watson, Tennessee Valley Authority, Wilson Dam, Ala.

13. "Chemoprophylaxis in Malaria, Atabrine vs. Quinine: A Review of the World Literature", Z. Bercovitz, Bellevue Hospital, New York, N.Y.

14. "Immunity in the Pigeon Strain of Plasmodium relictum", Harry Redmond, Emory University School of Medicine, Atlanta, Ga.

15. "The Course of Plasmodium cathemerium Malaria in One Hundred and Fifty Canaries Infected by Mosquito Bite", Harry Beckman, Marquette University School of Medicine, Milwaukee, Wisc.

16. "A Pathological Study of Macaccus rhesus with Acute Plasmodium knowlesi Infection", R. H. Rigdon and W. K. Stratman-Thomas, University of Tennessee College of Medicine, Memphis, Tenn.

17. "Anophelines of Southwestern Yunnan and their Relation to Malaria", W. C. Sweet, Rockefeller Foundation, Lashio, Burma; L. C. Feng, C. Y. Chow and S. C. Hsu, Malaria Laboratory, Chefang, Yunnan, China.